

What is claimed is:

1. An IRM-support complex comprising at least one IRM compound on particulate support material comprising at least one metal. /

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2. The IRM-support complex of claim 1 wherein the IRM compound is attached to the support material.

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3. The IRM-support complex of claim 2 wherein the IRM compound is covalently attached to the support material.

4. The IRM-support complex of claim 3 wherein the IRM compound is covalently attached to least one of the metals of the support material.

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5. The IRM-support complex of claim 1 wherein the support material is in the form of porous particles.

6. The IRM-support complex of claim 1 wherein the metal is coated on the support material.

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7. The IRM-support complex of claim 6 wherein the support material comprises an organic polymer or an inorganic polymer.

8. The IRM-support complex of claim 7 wherein the particulate support material comprises a metal oxide.

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9. The IRM-support complex of claim 8 wherein the particulate support material comprises a glass or a ceramic.

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10. The IRM-support complex of claim 1 wherein the support material is in the form of solid metal particles.

11. The IRM-support complex of claim 1 wherein the metal forms the core of the particulate support material.

12. The IRM-support complex of claim 1 wherein the particulate support material has an average density of 0.1 g/cm³ to 25 g/cm³.

13. The IRM-support complex of claim 12 wherein the particulate support material has an average density of 5 g/cm³ to 20 g/cm³.

14. The IRM-support complex of claim 1 wherein the particulate support material has an average particle size of 1 nanometer to 250 microns.

15. The IRM-support complex of claim 14 wherein the particulate support material has an average particle size of 0.1 micron to 20 microns.

16. The IRM-support complex of claim 14 wherein the particulate support material has an average particle size of 0.2 micron to 5 microns.

17. The IRM-support complex of claim 1 wherein the particulate support material is magnetic.

18. The IRM-support complex of claim 17 wherein the particulate support material is superparamagnetic.

19. The IRM-support complex of claim 1 wherein the IRM compound is an agonist of at least one TLR.

20. The IRM-support complex of claim 19 wherein the TLR is selected from the group consisting of TLR6, TLR7, TLR8, and combinations thereof.

21. The IRM-support complex of claim 1 wherein the IRM compound is a small molecule immune response modifier.

22. The IRM-support complex of claim 1 wherein at least one IRM compound is selected from the group consisting of imidazoquinoline amines, amide substituted imidazoquinoline amines, sulfonamide substituted imidazoquinoline amines, urea substituted imidazoquinoline amines, aryl ether substituted imidazoquinoline amines, heterocyclic ether substituted imidazoquinoline amines, amido ether substituted imidazoquinoline amines, sulfonamido ether substituted imidazoquinoline amines, urea substituted imidazoquinoline ethers, thioether substituted imidazoquinoline amines, 6-, 7-, 8-, or 9-aryl or heteroaryl substituted imidazoquinoline amines, tetrahydroimidazoquinoline amines, amide substituted tetrahydroimidazoquinoline amines, sulfonamide substituted tetrahydroimidazoquinoline amines, urea substituted tetrahydroimidazoquinoline amines, aryl ether substituted tetrahydroimidazoquinoline amines, heterocyclic ether substituted tetrahydroimidazoquinoline amines, amido ether substituted tetrahydroimidazoquinoline amines, sulfonamido ether substituted tetrahydroimidazoquinoline amines, urea substituted tetrahydroimidazoquinoline ethers, thioether substituted tetrahydroimidazoquinoline amines, imidazopyridine amines, amide substituted imidazopyridine amines, sulfonamide substituted imidazopyridine amines, urea substituted imidazopyridine amines, aryl ether substituted imidazopyridine amines, heterocyclic ether substituted imidazopyridine amines, amido ether substituted imidazopyridine amines, sulfonamido ether substituted imidazopyridine amines, urea substituted imidazopyridine ethers, thioether substituted imidazopyridine amines, 1,2-bridged imidazoquinoline amines, 6,7-fused cycloalkylimidazopyridine amines, imidazonaphthyridine amines, tetrahydroimidazonaphthyridine amines, oxazoloquinoline amines, thiazoloquinoline amines, oxazolopyridine amines, thiazolopyridine amines, oxazolonaphthyridine amines, thiazolonaphthyridine amines, 1*H*-imidazo dimers fused to pyridine amines, quinoline amines, tetrahydroquinoline amines, naphthyridine amines, or tetrahydronaphthyridine amines; pharmaceutically acceptable salts thereof; and combinations thereof.

23. The IRM-support complex of claim 1 wherein the IRM is selected from the group consisting of amide substituted imidazoquinoline amines, sulfonamide substituted imidazoquinoline amines, urea substituted imidazoquinoline amines, aryl ether substituted

imidazoquinoline amines, heterocyclic ether substituted imidazoquinoline amines, amido ether substituted imidazoquinoline amines, sulfonamido ether substituted imidazoquinoline amines, urea substituted imidazoquinoline ethers, thioether substituted imidazoquinoline amines, 6-, 7-, 8-, or 9-aryl or heteroaryl substituted imidazoquinoline amines, tetrahydroimidazoquinoline amines, amide substituted tetrahydroimidazoquinoline amines, sulfonamide substituted tetrahydroimidazoquinoline amines, urea substituted tetrahydroimidazoquinoline amines, aryl ether substituted tetrahydroimidazoquinoline amines, heterocyclic ether substituted tetrahydroimidazoquinoline amines, amido ether substituted tetrahydroimidazoquinoline amines, sulfonamido ether substituted tetrahydroimidazoquinoline amines, urea substituted tetrahydroimidazoquinoline ethers, thioether substituted tetrahydroimidazoquinoline amines, imidazopyridine amines, amide substituted imidazopyridines, sulfonamide substituted imidazopyridines, urea substituted imidazopyridines, 1,2-bridged imidazoquinoline amines, 6,7-fused cycloalkylimidazopyridine amines, imidazonaphthyridine amines, tetrahydroimidazonaphthyridine amines, oxazoloquinoline amines, thiazoloquinoline amines, oxazolopyridine amines, thiazolopyridine amines, oxazonaphthyridine amines, thiazolonaphthyridine amines, 1*H*-imidazo dimers fused to pyridine amines, quinoline amines, tetrahydroquinoline amines, naphthyridine amines, or tetrahydronaphthyridine amines; pharmaceutically acceptable salts thereof; and combinations thereof.

24. The IRM-support complex of claim 1 wherein at least one IRM compound is selected from the group consisting of purines, imidazoquinoline amides, benzimidazoles, 1*H*-imidazopyridines, adenines, and derivatives thereof.

25. The IRM-support complex of claim 1 wherein at least one IRM compound comprises a 2-aminopyridine fused to a five-membered nitrogen-containing heterocyclic ring.

26. The IRM-support complex of claim 1 wherein the metal is a transition metal, a metalloid, or a rare earth metal.

27. The IRM-support complex of claim 26 wherein the metal is selected from the group consisting of Groups 6-11 of the Periodic Table.

28. The IRM-support complex of claim 27 wherein the metal is selected from the group consisting of tungsten, iron, gold, silver, platinum, zirconium, nickel, cobalt, rhodium, titanium, and combinations thereof.

29. The IRM-support complex of claim 1 wherein the metal is a zero-valent metal.

30. The IRM-support complex of claim 29 wherein the zero valent-metal is in the form of an alloy.

31. The IRM-support complex of claim 1 further comprising at least one additional drug.

32. The IRM-support complex of claim 31 wherein the additional drug is a vaccine.

33. The IRM-support complex of claim 32 wherein the vaccine is a DNA vaccine.

34. An IRM-support complex comprising at least one IRM compound covalently attached to particulate support material comprising at least one zero-valent transition metal, wherein the particulate support material has an average density of 5 g/cm³ to 20 g/cm³.

35. The IRM-support complex of claim 34 contained in a delivery gun.

36. The IRM-support complex of claim 34 wherein the metal is selected from the group consisting of tungsten, iron, gold, silver, platinum, zirconium, nickel, cobalt, rhodium, titanium, and combinations thereof.

37. An IRM-support complex comprising at least one IRM compound covalently attached to particulate support material comprising at least one zero-valent transition

metal, wherein the particulate support material has an average particle size of 0.2 micron to 5 microns.

38. The IRM-support complex of claim 37 wherein the metal is selected from the group consisting of tungsten, iron, gold, silver, platinum, zirconium, nickel, cobalt, rhodium, titanium, and combinations thereof.

39. An IRM-support complex comprising at least one IRM compound covalently attached to particulate support material comprising at least one zero-valent transition metal selected from the group consisting of Groups 6-11 of the Periodic Table.

40. The IRM-support complex of claim 39 wherein the metal is selected from the group consisting of tungsten, iron, gold, silver, platinum, zirconium, nickel, cobalt, rhodium, titanium, and combinations thereof.

41. The IRM-support complex of claim 40 wherein the wherein the particulate support material has an average particle size of 5 nm to 100 nm.

42. An IRM-support complex comprising at least one IRM compound covalently attached to an oligonucleotide, which is attached to particulate support material comprising at least one metal.

43. The IRM-support complex of claim 42 wherein the particulate support material has an average particle size of 2 microns to 5 microns.

44. A method of delivering an IRM to a subject, the method comprising delivering the IRM-support complex of claim 1.

45. A method of delivering an IRM to a subject, the method comprising delivering the IRM-support complex of claim 34.

46. A method of delivering an IRM to a subject, the method comprising delivering the IRM-support complex of claim 37.

47. A method of delivering an IRM to a subject, the method comprising delivering the IRM-support complex of claim 39.

48. A method of delivering an IRM to a subject, the method comprising delivering the IRM-support complex of claim 42.

49. A delivery device comprising a reservoir containing an IRM-support complex comprising at least one IRM compound on particulate support material comprising at least one metal.

50. The delivery device of claim 49 wherein the IRM compound is covalently attached to the particulate support material.

51. The delivery device of claim 50 wherein the particulate support material comprises at least one zero-valent transition metal.

52. The delivery device of claim 50 wherein the particulate support material has an average density of 10 g/cm^3 to 20 g/cm^3 .

53. The delivery device of claim 50 wherein the particulate support material has an average particle size of 0.2 micron to 5 microns.

54. The delivery device of claim 50 wherein the zero-valent transition metal is selected from the group consisting of Groups 6-11 of the Periodic Table.

55. The delivery device of claim 50 which is a ballistic device.

56. A method of making an IRM-support complex comprising attaching an immune response modifier to a particulate support material comprising at least one metal.

57. The method of claim 56 wherein the immune response modifier is covalently attached to the particulate support material.

5 58. The method of claim 57 wherein the method comprises modifying the IRM to comprise an alkoxysilane moiety.

59. The method of claim 58 wherein the IRM-modified alkoxysilane is attached to a silicon-containing particulate support material.

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60. The method of claim 59 wherein the silicon-containing particulate support material comprises silica particles.